Amendments to the Claims

This listing of claims will replace all prior versions and listings of claims in this application:

Listing of Claims

Claim 1 (currently amended): A method for optimizing image quality in a microscope system, comprising the following steps:

optically acquiring images of a subject under a microscope by a detector unit, each image having a plurality of pixels;

storing the images optically acquired by the detector unit in a first image memory;

for each two chronologically successively acquired images comparing two chronologically successively acquired values detected for each pixel of the detector unit to determine a respective displacement vector field between the two chronologically successively acquired images;

identifying a trajectory for each pixel of the acquired images from respective displacement vector fields determined for each two chronologically successively acquired images; and

storing trajectory data obtained from the images optically acquired by the detector unit in a trajectory memory

applying an operation to the images optically acquired by the detector unit along the identified trajectory;

~~wherein the acquired images are not subjected to compression or decompression during the applying of the operation;~~ and

storing the images created by the correlation of the images from the first image memory with the trajectory data from the trajectory memory in a second image memory.

Claim 2 (previously presented): The method as defined in Claim 1, wherein the operation along the identified trajectory is a deconvolution, a smoothing, an averaging filter, or an operation acting in time-lateral fashion.

Claim 3 (currently amended): The method as defined in Claim 1, wherein ~~the images optically acquired by the detector unit are conveyed to an image memory; and~~ data obtained from the images optically acquired by the detector unit is conveyed to an optical flow calculator to a trajectory tracker~~, and to a trajectory memory~~ to obtain the trajectory data.

Claim 4 (previously presented): The method as defined in Claim 3, wherein for the application of the operation, the images optically acquired by the detector unit are retrieved from the image memory and corresponding trajectory data is retrieved from the trajectory memory in a correlated way.

Claim 5 (currently amended): The method as defined in Claim 4, wherein the data generated by application of the operation is conveyed to [[a]] the second image memory.

Claim 6 (previously presented): The method as defined in Claim 1, wherein the microscope system contains a scanning microscope or a conventional microscope.

Claim 7 (currently amended): An arrangement for optimizing image quality in a microscope system, comprising:

at least one objective defining an image window,

a detector unit for optically acquiring images of a subject under a microscope, each image optically acquired by the detector unit having a plurality of pixels, [[and]]

a computer system comprising

a means for determining a respective displacement vector field from a comparison of each two chronologically successively acquired images comparing two chronologically successively acquired values detected for each pixel of the detector unit ,

a means for identifying a trajectory for each pixel of the images optically acquired by the detector unit from respective displacement vector fields determined for each two chronologically successively acquired images, and

a means for applying an operation to the images optically acquired by the detector unit along the identified trajectory,

~~wherein the acquired images are not subjected to compression or decompression~~

~~during to the applying of the operation~~

a first image memory storing the images optically acquired by the detector unit;

a trajectory memory storing trajectory data obtained from the images optically acquired by the detector unit; and

a second image memory storing the images created by the correlation of the images from the first image memory with the trajectory data from the trajectory memory.

Claim 8 (previously presented): The arrangement as defined in Claim 7, wherein the means for applying an operation to the images optically acquired by the detector unit along the identified trajectory is chosen from: a deconvolution means, a smoothing means, an averaging filter, or a means for operation acting in time-lateral fashion.

Claim 9 (canceled)

Claim 10 (original): The arrangement as defined in Claim 7, wherein the microscope system encompasses a scanning microscope or a conventional microscope.

Claim 11 (currently amended): A non-transitory computer-readable medium with software that causes a microscope system to carry out a method as defined in one of Claims 1 through 6.